Case Study: The Branson Travel and Recreational Information Program (TRIP)

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INTRODUCTION

Ten years ago, no one would have predicted that the sleepy little town of Branson, Missouri would explode to become a major vacation destination for millions of U.S. and foreign tourists. Located in the heart of the Ozark Mountains, Branson holds claim to three mountain-fed lakes surrounded by millions of acres of unspoiled wilderness. The pristine natural surroundings of Branson have always attracted large numbers of visitors interested in the camping, hiking, fishing and water sport opportunities offered.

However, in the last decade Branson has become known as the "live entertainment capital of the world." Branson now boasts 38 music theaters with over 52,000 seats – that's 9,000 more than in the theaters on New York's Broadway. The shows in Branson are home to today's greatest performing artists, making it a mecca for 6 million visitors a year. In fact, its permanent population of just 4,400 swells to more than 40,000 during peak tourist season. This growth in such a short period is extraordinary. But along with this surge come a few growing pains.

Most international visitors and many long-distance visitors fly into the nearby city of Springfield, where they can rent cars or join motor coach tours to the Branson area. However, by far the largest proportion of visitors drive, charter a motor coach for the trip, or buy a package tour that includes motor coach transportation directly from large cities within a 600-mile radius. The principal markets for the Branson/Tri-Lakes Region are, in fact, St. Louis, Kansas City, Dallas, Oklahoma City, Tulsa, Wichita, Omaha, Minneapolis, Chicago, Indianapolis, Memphis, Little Rock and Des Moines.

Traffic congestion is an unfortunate bi-product of such enormous popularity. The roadway system in and around Branson consists of mostly two-lane facilities, with the majority of traffic entering or leaving the city on US Highway 65 and Missouri Route 76. Route 76 becomes a three-lane facility through Branson, where it is known as "76 Country Music Boulevard," contains the majority of theaters and attractions in Branson and carries more than 37,000

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vehicles per day during much of July and August. Throughout the summer months and into fall, the level of service (LOS) is frequently at F.

There are significant efforts underway to improve this situation. Road improvements and construction are going on for routes into and out of Branson. As an additional immediate measure, a number of alternative routes which parallel Route 76 have been constructed within Branson to ease congestion on 76. These alternative routes have been promoted by the City and MoDOT through various marketing efforts and are known as the red, blue and yellow routes with color-coded signs directing traffic to use them. The red, blue and yellow routes are designed to allow visitors to "come in the back door" for a more direct route to their lodging, attraction or restaurant. There have also been plans developed for a regional transit system and local Branson trolleys to carry patrons along Country Music Boulevard.

Intelligent Transportation Systems (ITS), particularly those providing rural travel and recreational information to visitors, are another critical element in the toolbox of solutions for the transportation needs of the Branson/Tri-Lakes Region. The Branson Travel and Recreational Information Program (TRIP), one of the first federally sponsored rural ATIS operational tests in the U.S., is a program designed to inform tourists of route options, keep them updated on current traffic conditions, provide a single source repository of tourist and recreational information on Branson and the surrounding Tri-Lakes Area. The system builds upon many of the technologies which have been tested in urban settings. However, with the layout of the streets within Branson and the fact that the city is a tourist town, the approach to implementation has differed greatly to traditional urban ATIS projects.

BRANSON TRIP MISSION AND GOALS

The Branson TRIP goal is to collect, coordinate, and disseminate multi-modal travel and tourism information to the broad variety of visitors to the region, in order to improve mobility, reduce congestion, enhance economic development, and improve the overall experience of visitors to the Branson/Tri-Lakes Region. In effect, the Branson TRIP system will be utilized to enhance and better utilize the current and future transportation infrastructure through the identification of traffic conditions and dissemination of real-time information.

The Branson TRIP system will improve the use of alternative routes through the broadcasting of real-time traffic and travel information over a multitude of media. In addition, and as a result of the TRIP system being an operational test pilot which needed to be

established in a six month time period, the Branson TRIP system is built upon the use of the significant resources currently available within the Branson area. These resources include three highway advisory radio (HAR) stations, a dedicated regional cable TV vacation channel and commercial radio station, existing tourist information web sites, changeable message signs (CMS) and the traffic and incident information currently obtained by the local police department.

PRE-TRIP, EN-ROUTE AND ON-SITE INFORMATION

The Branson TRIP is based on the foundation of providing tourists with comprehensive tourist attraction, weather, traffic and road construction information. To effectively capture the intended audiences and to provide the greatest potential for successful reception of information, the Branson TRIP utilizes existing information resources and advanced technologies to provide traveler information pre-trip, while en-route and at designated on-site attractions.

Pre-trip information is provided to potential tourists or individuals simply interested in Branson through a dedicated Internet web site and a dial-in telephone information service, or interactive voice response system (IVR). The information provided over both of these media will concentrate on providing users with information on tourist attractions, current and forecast weather, historically congested travel routes (with associated recommendations for travel route), area maps, and road construction schedules. Users of the Internet site will able to look at a map of Branson which identifies the current traffic conditions and traffic incidents. Snapshot images from the TRIP's four CCTV cameras will also be provided on the web site.

En-route traveler information is provided through portable and static changeable message signs (CMS), static advisory signs which direct patrons to tune into the highway advisory radio (HAR) operated by TRIP, the HAR and commercial radio. The en-route information concentrates on real-time traffic conditions, suggestions for alternative routes, and road construction updates.

On-site information is provided through interactive kiosks which are being deployed throughout Branson and surrounding areas and the dial-in IVR system. As a secondary information source, data collected from the Branson TRIP equipment is sent a local cable television station, the Vacation Channel, which utilizes this information to update their current programming on traffic and travel conditions. The on-site information provides tourists in the Branson Tri-Lakes area with information on how to get to their destination in Branson, the local and regional tourist attractions, and the best departure times and routes.

SYSTEM ARCHITECTURE AND DEVELOPMENT APPROACH

The driving concept behind the Branson TRIP project is to consolidate the data currently being collected by various public and private organizations in Branson, collect additional traffic, travel and tourism data and broaden information dissemination. This is achieved through the implementation and operation of the following subsystems:
- A central database where all the collected data is validated, normalized and fused
- Additional traffic detectors using inductive loop and radar tech-

nologies
- Video systems to capture and transmit video from remote locations
- Interactive kiosks providing a broad range of information services
- An Internet web site
- Changeable message signs
- Coordinated links to radio and television stations for direct broadcast
- Full-area HAR coverage.

In order to identify how to access and coordinate the data and dissemination methods planned for the program, the project team performed a review of each of the existing traffic systems, congestion and traffic concerns and landline and RF communications availability. Optimal strategies for system architecture were then developed based on regional availability, operating cost, and tie-in with other initiatives. A central database and traffic information center was developed to fuse the data sources into consistent formats for information dissemination. Information dissemination component technologies include the following:

Interactive Voice Response (IVR) Telephone System

This system permits users to dial-in and access information using a touch-tone telephone. To provide customized information to the end user, the IVR system uses a menu tree structure which queries the user to select from a list of information topic categories and navigate to the specific travel or tourist information sought.

The information provided over the IVR system is obtained directly from the TIC database. The IVR uses pre-recorded messages and inserts the real-time data at appropriate locations within the text. With multiple dial-in phone lines connected to the IVR, the system can handle up to four simultaneous calls at the same time with expansion capabilities up to an unlimited number of lines.

Web Site

The Branson TRIP web site fuses existing Branson area web sites with the most appropriate and informative data on attractions, lodging, events and restaurants in and around Branson into a single Branson area information source. The TRIP web site also incorporates information from the TIC, a graphical interface to display traffic conditions in Branson and images obtained from the systems CCTV cameras located throughout Branson. The TRIP web site development has been closely coordinated with the kiosk development to allow low-cost sharing of the multimedia development and interactive user interface activities.

Kiosks

Branson TRIP kiosks are being deployed throughout the City and surrounding areas. The kiosk design was based on obtaining data from the Branson TRIP web site, thus providing an efficient way of leveraging the existing development efforts to focus on broadening the audience and enhancing the existing information and services. The kiosk design activities have also focused on identifying future services that could be provided through the kiosks, for example ticket purchases, hotel, restaurant and sports reservations, map print-

ing, coupon production, and registering to be informed of special offers in real-time.

Television and Radio Media Production

A cable television channel, which broadcasts tourist information to all of the hotels in Branson and a commercial radio station in Branson provide conduits for travel and tourist information, generated by the Branson TRIP project, to be broadcast to visitors. The data that is provided to the radio and television partners is sent directly from the TIC computer via a remote client terminal connected into the TIC LAN. Video from roadside CCTV cameras is being converted to broadcast quality for transmission as part of the cable channels programming.

Changeable Message Signs

Changeable message signs (CMS) are used to identify traffic conditions to traveler who are en-route to Branson. The CMS deployment process was based on assessing traffic flows and access points to the Branson area, identifying the travel decision points, such as prior to alternative route departure locations and defining appropriate messages which allow travelers to reach their destination in the shortest period of time or with the least inconvenience from traffic congestion. To provide more comprehensive data to the patrons of Branson, the CMS signs also direct patrons to tune into the real-time highway advisory radio.

Highway Advisory Radio (HAR)

Three existing Highway Advisory Radios (HAR) are being used to provide more comprehensive travel and traffic information then could be placed on the roadside CMS. The HAR messages have been developed to provide route specific information as a result of the multiple origin and destination locations of Branson travelers. This has been accomplished by dividing the city into a grid and identifying the most appropriate alternative route based on the patrons location within the grid system.

System Deployment Schedule

The system integrators are currently completing the development of the Branson TRIP, with the start of system operations occurring on June 1, 1998. With the cooperation of a true public/private partnership, the project team will have completed the initial system development in only 6 months. After June 1, certain development and deployment activities will continue to enable the operating system to be used as a marketing tool to gain new participants, and to allow some of the subsystems to be brought on line. Modifications to the system design and operational procedures based on operating experience are anticipated to take an additional 2 to 3 months.

The system is scheduled to be evaluated under the FHWA operational test for a full 11 months. However, current plans are underway to obtain further funding and private sector investment to allow the operation to continue after this period.

Public/Private Partnership

The Branson TRIP project has brought together private organizations and public agencies that represent all levels of government, from state transportation and tourism agencies to local counties, cities, and chambers of commerce. Together the public and private groups are making the Branson TRIP a successful operational test, leading to a self-sustaining operations center in Branson after the test.

The partnership agreements developed for this operational test were established in less than two weeks. Some agencies pledged support to the project and future expansion, but were not sure where they fit into the initial development and deployment. As a result, the partnerships were divided into three categories: Branson TRIP Partners, for those organizations that would be directly involved in the system design process and operational test; Branson TRIP affiliates, for those organizations that would support the program development within Branson; and Great Plains affiliates, for those organizations that would supply input into the development of the program for future expansion into a larger 6 state geographical area consisting of Missouri along with Arkansas, Iowa, Kansas, Nebraska and Oklahoma.

The Branson TRIP Partners

Missouri Department of Transportation
City of Branson
Missouri Division of Tourism
Stone County
Taney County
Branson Police Department
Southwest Missouri Advisory COG
Branson/Lakes Area Chamber of Commerce
Table Rock Lake Chamber of Commerce
Castle Rock Black & Veatch
ADDCO
Intuitive Solutions
The Branson Connection
KOMC FM Radio
KRZK FM Radio
The Vacation Channel

The Branson TRIP Affiliates

US Army Corps of Engineers
Silver Dollar City
Bass Pro Outdoor World
Western Transportation Institute
Perceptions

The Great Plains TRIP Affiliates

Arkansas Department of Transportation
Iowa Department of Transportation
Kansas Department of Transportation
Nebraska Department of Roads

Oklahoma Department of Transportation

While the initial deployment of the Branson TRIP is based on hardware deployment in Southwest Missouri, the broader program goal is the development of a seamless rural travel and tourist information system throughout the states of Missouri, Kansas, Arkansas, Oklahoma, Iowa and Nebraska. This natural expansion of the Branson TRIP, known as the Great Plains TRIP, will be coordinated and developed in conjunction with the initial operational test phase. Representatives from all six states will act as an advisory team as the first step in the deployment of a six-state Great Plains regional Travel and Recreational Information Program. Their activities will include reviewing the system development, identifying similar efforts in their states and identifying methods for expansion of the project to the Great Plains TRIP.